

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date:

Region: Asheville Regional Office
County: Burke
NC Facility ID: 1200037
Inspector's Name: Christopher Scott
Date of Last Inspection: 09/12/2019
Compliance Code: 3 / Compliance - inspection

Facility Data Applicant (Facility's Name): Baker Interiors Furniture Company Facility Address: Baker Interiors Furniture Company 1 Baker Way Connelly Springs, NC 28612 SIC: 2511 / Wood Household Furniture NAICS: 337122 / Nonupholstered Wood Household Furniture Manufacturing Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V				Permit Applicability (this application only) SIP: 02D .0503, 0504, .0512, 0516, .0521, .0524, .0614, .1111, .1806 NSPS: Dc NESHAP: JJ, DDDD, JJJJJ PSD: NA PSD Avoidance: 02Q .0317 NC Toxics: NA 112(r): NA Other: NA			
Contact Data				Application Data Application Number: 1200037.20A Date Received: 01/23/2020 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 02295/T32 Existing Permit Issue Date: 05/19/2017 Existing Permit Expiration Date: 10/31/2020			
Facility Contact Robert Jordan Maintenance Manager (828) 485-7142 1 Baker Way Connelly Springs, NC 28612	Authorized Contact Chris Caraway Director of Manufacturing (828) 397-1255 1 Baker Way Connelly Springs, NC 28612	Technical Contact Robert Jordan Maintenance Manager (828) 485-7142 1 Baker Way Connelly Springs, NC 28612					
Total Actual emissions in TONS/YEAR:							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2018	0.3600	7.20	27.71	8.38	4.92	2.54	1.59 [Toluene]
2017	0.4500	8.59	24.77	10.15	6.05	2.29	1.05 [Toluene]
2016	0.3900	8.15	28.32	9.61	5.77	2.72	1.35 [Toluene]
2015	0.3600	7.65	40.91	8.93	7.21	3.28	1.83 [Toluene]
2014	0.4200	8.88	62.59	10.47	8.56	5.51	3.37 [Toluene]
Review Engineer: Eric Crump Review Engineer's Signature: _____ Date: _____					Comments / Recommendations: Issue 02295/T33 Permit Issue Date: _____ Permit Expiration Date: _____		

1. Purpose of Application

Baker Interiors Furniture Company (Baker Interiors) is a wood furniture manufacturing company located in Connelly Springs, Burke County, North Carolina. The facility operates under Title V Permit No. 02295T32 with an expiration date of October 31, 2020. Baker Interiors has applied for renewal of their facility's air quality permit. The renewal application was received on January 23, 2020, or at least nine months prior to the expiration date. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

Through permit application No. 1200037.20A, Baker Interiors is seeking to renew the existing permit with no proposed changes.

2. Facility Description

Baker Interiors manufactures high end case goods wood furniture. The primary air emissions and emission sources include wood dust from woodworking and an associated wood waste collection system; volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) from solvent used in furniture finishing; and various pollutants from combustion in wood waste-fired and natural gas/oil-fired boilers. The plant was operating generally one shift Monday through Friday and employs approximately 200 people.

3. Application Chronology

November 12, 2015	Permit No. 02295T31 issued to Kohler Company dba Baker Furniture – Hildebran Plant as a Title V renewal.
March 28, 2017	Compliance inspection conducted by Mike Parkin, Asheville Regional Office (ARO). Facility appeared to be operating in compliance with all permit requirements.
April 3, 2017	Baker Interiors submits permit application No. 1200037.17A to DAQ to reflect a change in ownership and a new facility name.
May 19, 2017	DAQ issues permit No. 02295T32 to reflect change in ownership, and to change the name of the facility from Kohler Company, dba Baker Furniture – Hildebran Plant to Baker Interiors Furniture Company.
April 26, 2018	Compliance inspection conducted by Mike Parkin, ARO. Facility appeared to be operating in compliance with all permit requirements.
September 12, 2019	Compliance inspection conducted by Chris Scott, ARO. Facility appeared to be operating in compliance with all permit requirements.
January 23, 2020	DAQ receives air permit renewal application (1200037.20A) for Baker Interiors Furniture Company.
May 5, 2020	Draft permit and application review sent to ARO and Baker Interiors for review and comment.
May 22, 2020	Comments on draft permit and application review received from ARO.

May 22, 2020 Comments on draft permit and application review received from Baker Interiors.

xxx Region IV of the U.S. Environmental Protection Agency (EPA) notifies DAQ they will target this permit renewal for review.

xxx Permit renewal notice published; 30-day comment period begins.

xxx Public notice and comment period ends.

xxx EPA comment period ends.

4. Permit Modifications and Title V Equipment Editor (TVEE) Discussion

The following table summarizes changes to the Baker Interiors permit resulting from the permit renewal:

Page No.	Section	Description of Changes
Cover and throughout	---	Updated all dates and permit revision numbers
3	1	<p>Changed “GACT” to “GACT JJJJJ” for emission sources ID Nos. ESBL1 and ESBL2</p> <p>Changed “wood” in description of source ID No. ESBL2 to “wood waste”</p> <p>Added “Propane (startup fuel only)” to description for source ID No. ESBL4</p>
4	1	<p>Combined line items in table for kilns DK1 through DK4 into one single line item describing the four kilns</p> <p>Combined line items in table for liquid storage tank VO1 through VO4 into one single line item describing the four tanks</p>
5	2.1 A	<p>Changed “wood” in description of source ID No. ESBL2 to “wood waste”</p> <p>Modified limits/standards presentation in table to better clarify applicability of standards depending upon fuel used to fire specific boilers</p> <p>Added stipulation requiring tune-up of boiler ID No. ESBL1 in the event that it is reactivated</p>
6	2.1 A.1	Updated section to reflect the most current stipulations for 15A NCAC 02D .0503
	2.1 A.2	Updated section to reflect the most current stipulations for 15A NCAC 02D .0504
	2.1 A.2.a	Changed “wood” to “wood waste”
	2.1 A.2.c	Updated testing deadline for boiler ID No. ESBL2

Page No.	Section	Description of Changes
7	2.1 A.3	Updated section to reflect the most current stipulations for 15A NCAC 02D .0516
	2.1 A.3.a	Clarified that the 2.3 pound per million Btu heat input SO ₂ emission limit applies to ESBL4 when firing natural gas, and included propane as a fuel
	2.1 A.4	Updated section to reflect the most current stipulations for 15A NCAC 02D .0521
	2.1 A.4.a, d	Added propane as a fuel for source ID No. ESBL4
8-10	2.1 A.5	Updated section to reflect the most current stipulations for 15A NCAC 02D .0524 (40 CFR 60, Subpart Dc)
11	2.1 B.1	Updated section to reflect the most current stipulations for 15A NCAC 02D .0512
12	2.1 B.2.c	Inserted the parenthetical phrase “(the common stack following bagfilter CDBF5)” to clarify the common emission point
	2.1 B.2.c, d, e	Updated section to reflect the most current stipulations for 15A NCAC 02D .0521
13	2.1 B.3.c.iii	Spelled out “quality improvement plan” to establish the definition of “QIP”, so that “QIP” may be used throughout in lieu of “quality improvement plan”
13-14	2.1 B.3.d, e	Updated section to reflect the most current stipulations for 15A NCAC 02D .0614
14	2.1 C	Deleted “Seven baffle/dry filter type spray booths (ID Nos. SB19 through SB25) from list of sources
15	2.1 C.1.c, d	Updated section to reflect the most current stipulations for 15A NCAC 02D .0512
	2.1 C.2	Updated section to reflect the most current stipulations for 15A NCAC 02D .0521
15-24	2.1 C.3	Updated section to reflect the most current stipulations for 15A NCAC 02D .1111
18	2.1 C.3.f.viii	Updated to reflect that the spray gun limitations in 40 CFR §63.803(h) are now in effect
19	2.1 C.3.g.v.(A)	Changed §63.806(b)(2)(xiv) to §63.10(b)(2)(xiv)
25	2.1 D.1	Updated section to reflect the most current stipulations for 15A NCAC 02D .1111
26	2.2 A	Deleted toxic air pollutant summary of limits and standards from the table
26-28	2.2 A.2	Updated section to reflect the most current stipulations for 15A NCAC 02D .1806
28-29	2.2 A.3	Updated section to reflect the most current stipulations for 15A NCAC 02Q .0317 (for avoiding classification as a major source for HAP)
29-32	2.2 A.4	Updated section to reflect the most current stipulations for 15A NCAC 02D .1111
	2.2 A.4.a	Updated stipulation requiring tune-ups on boiler ESBL1 if it becomes operational again

Page No.	Section	Description of Changes
32	2.2 A.5	Updated section to reflect the most current stipulations for Avoidance Conditions for 40 CFR 63, Subpart JJJJJ
	2.2 A.5.a	Included boiler ESBL1 in Avoidance Conditions for 40 CFR 63, Subpart JJJJJ
33-42	3	Updated General Conditions to Version 5.3 dated August 21, 2018

The following change was made to the Title V Equipment Editor (TVEE): “One No. 2 fuel oil/natural gas-fired firetube boiler (42 million Btu per hour maximum heat input rate) [NSPS Dc, GACT] Propane” was changed to “One No. 2 fuel oil/natural gas-fired firetube boiler (42 million Btu per hour maximum heat input rate) [NSPS Dc, GACT] Propane (startup fuel only)”.

5. Description of Changes and Estimated Emissions

Baker Interiors has not proposed any changes to the permit that would affect potential or expected emissions from the facility in this permit renewal.

6. Regulatory Review

The Baker Interiors facility remains subject to the following state regulations under 15A NCAC 02D:

A. .0503, Particulates from Fuel Burning Indirect Heat Exchangers

Two firetube boilers, one fired with No. 2 fuel oil (ID No. ESBL1, which vents to a multicyclone (ID No. MC1)), and one fired with No. 2 fuel oil or natural gas (ID No. ESBL4) are subject to this rule. This rule limits particulate matter (PM) emissions to 0.42 and 0.35 pounds per million Btu (lb/MMBtu) heat input, respectively. Monitoring, recordkeeping, or reporting is not required for these boilers when firing these fuels.

B. .0504, Particulates from Wood Burning Indirect Heat Exchangers

One wood-fired firetube boiler (ID No. ESBL2) and two associated multicyclones installed in series (ID Nos. MC2 and MC3) are subject to this rule, which limits PM emissions to 0.45 lb/MMBtu heat input. The permit requires Baker Interiors to demonstrate compliance by testing in accordance with General Condition JJ. They must inspect the multicyclones at least monthly for leaks and annually for structural integrity, in addition to regular maintenance. Appropriate recordkeeping and semiannual summary reports are required.

C. .0512, Particulates from Wood Products Finishing Plants

This regulation covers woodworking operations (ID No. ESDS) at the facility, which includes wood routing, molding, shaving, milling, sawing, planing, sanding, shaping, boring, and grinding. These operations employ seven bagfilters for PM control. In addition, a wood fuel transfer system (ID No. ESDT), a wood hog transfer system (ID No. ESWH)—each controlled by a cyclone in series with bagfilter—and all spray booths (Nos. SB1 through SB17 and SB19 through SB25) are subject to this rule.

Under 02D .0512, Baker Interiors must provide adequate duct work and properly designed collectors for the woodworking operations and both transfer systems. They must inspect the ductwork, cyclones, and bagfilters monthly for structural integrity, and inspect the bagfilters annually, in addition to regular maintenance. The filters for the spray booths require weekly inspection, in addition to annual inspection of the ductwork. Inspection and maintenance records must be maintained, and submittal of semiannual summary reports are required.

D. .0516, Sulfur Dioxide Emissions from Combustion Sources

This rule limits boilers ESBL1, ESBL2, and ESBL4 to 2.3 pounds of SO₂ emissions per million Btu heat input. No monitoring, recordkeeping, or reporting are required for sulfur dioxide emissions from firing No. 2 fuel oil, propane, or natural gas in ESBL 1 and ESBL4, or wood in ESBL2.

There is also a new source performance standard that controls sulfur dioxide emissions from ESBL4. This is discussed in Section 8 of this review.

E. .0521, Control of Visible Emissions

This rule limits visible emissions from boilers ESBL1 and ESBL4, woodworking operations (ID No. ESDS), the wood fuel transfer system (ID No. ESDT) and the wood hog transfer system (ID No. ESWH) to no more than 20 percent opacity averaged over a six-minute period. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of No. 2 fuel oil, and/or natural gas in these two boilers. The woodworking operations and transfer systems share a common vent stack. The permit requires weekly observation of the stack for any emissions above normal, corrective action when emissions are beyond normal, recordkeeping, and semi-annual reporting.

Spray booths Nos. SB1 through SB17 and SB19 through SB25 are also limited to no more than 20 percent opacity. The monitoring, recordkeeping, and reporting requirements for the spray booths under 02D .0512 (see above) also serve to ensure compliance with this visibility standard.

Boiler ESBL2, being an older, wood-burning boiler, is limited to no more than 40 percent opacity averaged over a six-minute period. The permit requires daily observation of emission points for emissions above normal, corrective action when emissions are beyond normal, recordkeeping, and semi-annual reporting.

There is also a new source performance standard that controls visible emissions from boiler ESBL4. This is discussed in Section 8 of this review.

F. .0524: New Source Performance Standards

These apply to boiler ESBL4. See Section 8 of this review.

G. .0614: Compliance Assurance Monitoring

This rule applies to woodworking operations (ID No. ESDS), the wood fuel transfer system (ID No. ESDT) and the wood hog transfer system (ID No. ESWH), and an associated bagfilter. See Section 10 of this review.

H. .1111: Maximum Achievable Control Technology

This rule applies to the wood furniture manufacturing operations (ID No. ESFL1), lumber drying operations (ID Nos. DK1 through DK4), and miscellaneous coating operations (ID No. MCO) See Section 7 of this review.

I. .1806: Control and Prohibition of Odorous Emissions

This State-enforceable only rule is applicable facility-wide. Baker Interiors must not operate without taking sufficient action (e.g., management practices or control equipment) to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

No changes have occurred at Baker Interiors that require modifying the permit requirements discussed above. Continued compliance with these regulations is expected. The permit has been updated to reflect the most current stipulations for all applicable regulations.

7. National Emission Standards for Hazardous Air Pollutants (NESHAPs): Maximum and/or Generally Achievable Control Technology (MACT/GACT)

Baker Interiors remains subject to the following NESHAPs:

- A. 40 CFR Part 63 Subpart JJ “National Emission Standards for Wood Furniture Manufacturing Operations”
The wood furniture manufacturing operations (ESFL1) at the facility are subject to this NESHAP. This rule controls HAP emissions through limiting the volatile organic compound and volatile HAP content of finishing materials, cleaning materials, adhesives, and other compounds used in these operations. The rule also specifies work practice standards, test methods, compliance options, procedures for demonstrating compliance, and recordkeeping and reporting requirements.
- B. 40 CFR Part 63 Subpart DDDD “National Emission Standards for Plywood and Composite Wood Products”
This rule covers the four steam-heated drying kilns (**ID Nos. DK1 through DK4**) used to dry lumber, and coating operations including edge banding and cold glue pressing utilizing polyvinyl acetate (PVA) glues (**ID No. MCO**). While subject to the MACT, the kilns have no substantive requirements other than initial notification (which has already been completed).
- C. 40 CFR Part 63 Subpart JJJJJ, “Industrial, Commercial, and Institutional Boilers Area Sources”
The permit requires Baker Interiors to operate boiler ESBL4 as a gas-fired boiler in accordance with 40 CFR §63.11237 to avoid the applicability of this NESHAP. They may only burn liquid fuel during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel that does not exceed 48 hours per calendar year. Baker Interiors must notify DAQ within 30 days of switching to liquid fuel. They must also demonstrate compliance with Subpart JJJJJ within 180 days of switching fuel.

This permit renewal does not affect the applicability of these NESHAPs to Baker Interiors, or change the permit requirements. Continued compliance is expected.

8. New Source Performance Standards (NSPS)

Boiler ESBL4 is subject to 40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. Subpart Dc limits the maximum sulfur content of No. 2 fuel oil fired in this boiler to 0.5 percent by weight. Baker Interiors must also maintain copies of certifications from the fuel oil supplier to verify compliance, and submit summary reports semiannually. Subpart Dc also limits visible emissions when firing fuel oil to 20 percent opacity averaged over a six-minute period.

This permit renewal does not affect the applicability of Subpart Dc to Baker Interiors, or change the permit requirements. Continued compliance is expected.

9. New Source Review (NSR)/Prevention of Significant Deterioration (PSD)

Baker Interiors is sited in an attainment area, and has the potential to emit VOCs in quantities that would subject the facility to PSD requirements under 15A NCAC 02D .0530: Prevention of Significant Deterioration. Baker Interiors has accepted conditions in their permit under 15A NCAC 02Q .0317, Avoidance Conditions, requiring that facility-wide VOC emissions not exceed 250 tons per consecutive 12-month period, so as to avoid being subject to PSD requirements. The permit specifies VOC emission estimation methods based on the use of established emission factors, and:

- the actual quantities of fuels (i.e. No. 2 fuel oil, wood, and natural gas) fired in boilers ESBL1, ESBL2, and ESBL4,
- the total amounts of each type of VOC-containing material consumed in the wood furniture finishing operations (ESFL1), and
- the total quantity of lumber dried in kilns DK1 through DK4.

This permit renewal does not affect the applicability of this avoidance condition to Baker Interiors, or change the permit requirements. Continued compliance is expected.

10. Risk Management Program (Clean Air Act, Section 112(r))

40 CFR Part 68 requires stationary sources storing more than threshold quantities of regulated substances to develop a risk management plan (RMP), in accordance with Section 112(r) of the Clean Air Act. The RMP lists potential effects of a chemical accident, steps the facility is taking to prevent an accident, and emergency response procedures to be followed if an accident occurs.

The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in the Rule. This permit renewal does not affect the 112(r) status of the facility. Continued compliance is expected.

10. Compliance Assured Monitoring (CAM)

40 CFR Part 64 requires development of a continuous CAM plan for a pollutant specific unit if that unit:

- is located at a major source required to obtain a 40 CFR Part 70 or Part 71 permit,
- is subject to an emission limitation or standard for a regulated air pollutant,
- uses an active control device to comply with that emission limitation or standard, and
- has potential pre-control potential emission rate exceeding the major source threshold (100 tons/year for criteria pollutants, 10 tons/year of a single HAP, or 25 tons/year of multiple HAPs).

For sources ESDS, ESDT, and ESWH and associated bagfilter CDBF5, the Permittee shall comply with 40 CFR Part 64 pursuant to 15A NCAC 02D .0614 to assure that the listed sources comply with the emission limits of 15A NCAC 02D .0512, Particulates from Wood Products Finishing Plants.

To assure compliance particulate matter and visible emissions from sources ESDS and ESDT shall be controlled by bagfilter CDBF5.

This permit renewal does not affect the facility's status with respect to CAM. Continued compliance is expected.

11. Facility-wide Toxics Review

In years past, the finishing operations at the Baker Interiors facility had been subject to emission limits for specific North Carolina toxic air pollutants (TAPs) in accordance with 15A NCAC 02D .1100, “Control of Toxic Air Pollutants”. Limits for methyl ethyl ketone, formaldehyde, toluene, styrene, methylene chloride, and benzene were established based on modeling performed in 1992/1994 while the facility was known as IMPACT Furniture (see permit review for Permit No. 02295T23 - J. Lee, 2/12/2008). As stated in the permit review for Permit No. 02295T28 (M. Parkin, 8/02/2010), 15A NCAC 02Q .0707, “Previously Permitted Facilities” allows for this condition to be removed from the permit unless DAQ determines that this removal would result in an exceedance of an allowable ambient level (AAL) in 02D .1104. According to the 2008 emission inventory data for this facility, the emissions of the six listed TAP were well below their associated limits in the subject permit condition in current Permit No. 02295T27, suggesting that removing the 02D .1100 condition from the permit would not result in an exceedance of an AAL. Therefore, in accordance with 02Q .0707, the condition associated with 02D .1100 was removed from Permit No. 02295T28.

The permit also once specified that TAP emissions shall not exceed rates which cause ambient levels to be exceeded under 15A NCAC 02Q .0711, “Emission Rates Requiring a Permit”. Baker Interiors was required to obtain a permit prior to exceeding any of the toxic permit emission rates (TPERS) listed in 02Q .0711. As stated in the permit review for Permit No. 02295T19 (J. Lee, 7/01/2004), the permit requirements for 02Q .0700: “Toxic Air Pollutant Procedures” were removed from the permit; they were no longer required because the facility was subject to MACT requirements under 40 CFR 63, Subpart JJ.

12. Facility Emissions Review

The table in the header page of this review summarizes emissions for Baker Interiors after application of required emission controls. Over the years 2014 through 2018, the largest quantity of criteria pollutant emitted was 62.59 tons of VOC in 2014; VOC emissions have fallen significantly since then. The largest quantity of total HAPs emitted was 5.51 tons in 2014. Toluene has consistently been the largest individual HAP emitted from the facility, with 3.37 tons emitted in 2014. HAP emissions have declined significantly since that time.

13. Compliance Status

The Baker Interiors facility was last inspected on September 12, 2019 by Mike Parkin of the Asheville Regional Office. The company appeared to be in compliance with all applicable requirements at that time. DAQ has not issued any Notices of Violation or Notices of Deficiency to the facility since the last permit renewal.

14. Public Notice/EPA and Affected States Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above. Tennessee, and South Carolina are affected states within 50 miles of the facility. There are no local programs within 50 miles of the facility.

15. Other Regulatory Considerations

None of the following were required for Permit Application No. 1200037.20A:

- a Professional Engineer's seal,
- a zoning consistency determination, or
- a permit fee.

16. Recommendations

DAQ has reviewed Permit Application No. 1200037.20A for Baker Interiors Furniture Company located in Connelly Springs, Burke County to determine compliance with all procedures and requirements. DAQ has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. DAQ recommends the issuance of Air Permit No. 02295T33.